Workshop Slides and Recording

Workshop on the 2026-2028 Wildfire Mitigation Plans of Liberty Utilities, PacifiCorp, LS Power Grid California, Horizon West Transmission, and Trans Bay Cable

The Office of Energy Infrastructure Safety held a public workshop on the 2026-2028 Base Wildfire Mitigation Plans of Liberty Utilities, PacifiCorp, LS Power Grid California, Horizon West Transmission, and Trans Bay Cable, on July 29, 2025. A recording of the meeting can be found on Energy Safety's YouTube channel.

Workshop Recording: https://www.youtube.com/watch?v=ni0FtDhJdgw

The slides presented during the meeting are attached to this document.

2026 - 2028 BASE WILDFIRE MITIGATION PLANS PUBLIC WORKSHOP

For Liberty, PacifiCorp, Horizon West Transmission, LS Power Grid California, and Trans Bay Cable WMPs

July 29, 2025

WELCOME & INTRODUCTION

SAFETY MESSAGE

- Be aware of your surroundings
- Know your emergency exits and evacuation route(s)
- Feel something, say something
- Take regular breaks; get up and stretch
- Keep emergency contact information readily available

WMP BACKGROUND (1/1)

- Electrical corporations (ECs) are required to prepare and submit Wildfire Mitigation Plans (WMPs) to Energy Safety.

- WMPs describe how the EC is constructing, maintaining, and operating its electrical lines and equipment in a manner that will minimize the risk of catastrophic wildfires.

WMP CYCLE (1/2)

- ECs submit a Base WMP every three years and provide updates in the interim years.
- Previously, ECs submitted their 2023-2025 Base WMPs in 2023.
- This year, in 2025, Energy Safety is evaluating a new three-year Base WMP for 2026 through 2028.
- PacifiCorp, Liberty Utilities, Trans Bay Cable, Horizon West Transmission, and LS Power Grid California submitted 2026-2028 Base WMPs in June and July 2025.

WMP CYCLE (2/2)

- This workshop focuses on only 2026-2028 Base WMPs for PacifiCorp, Liberty Utilities, Trans Bay Cable, Horizon West Transmission, and LS Power.

- The Base WMPs for SCE, PG&E, Bear Valley, and SDG&E were discussed at the first WMP workshop on May 21, 2025. The workshop is recorded and available on Energy Safety's YouTube page.

WORKSHOP OBJECTIVES (1/2)

- Provide the public and other stakeholders with the opportunity to hear from PacifiCorp, Liberty, Trans Bay Cable, Horizon West, and LS Power on key elements from the WMPs.
- Questions for Liberty and PacifiCorp focus on equipment maintenance, inspection technologies, and vegetation management, with one additional unique question for each electrical corporation.
- Questions for Horizon West, Trans Bay Cable, and LS Power focus on new innovations and, when applicable, risk management.
- Forum for public and stakeholder questions.
- Information shared during the workshop may help inform written comments on the 2026-2028 Base WMPs.

WORKSHOP OBJECTIVES (2/2)

Opening Comment dates can be found on the docket, most recently published as part of the WMP schedule on May 14. For the WMPs being presented today, opening comments are due on:

- Liberty: Aug. 8, 2025
- PacifiCorp: Aug. 22, 2025
- Horizon West: Sept. 5, 2025
- Trans Bay Cable: Sept. 5, 2025
- LS Power: Sept. 5, 2025

We will close out the workshop with more information on next steps and how to submit written comments.

WORKSHOP STRUCTURE (1/3)

This workshop is structured to hear from each EC about its 2026-2028 Base WMP.

- Liberty and PacifiCorp each have 45 minutes to present, followed by a 15 minute Q&A period.
- LS Power has 25 minutes to present, followed by 10 minutes for Q&A.
- Horizon West and Trans Bay Cable each have 10 minutes to present followed by a combined 10 minute Q&A period.

Each EC presentation is subject to a time limit, monitored by an internal timekeeper who will provide live reminders as needed.

WORKSHOP STRUCTURE (2/3)

Breaks & Questions and Answers

- There will be a 15-minute break, a 10-minute break, and a one-hour lunch break.
- After all presentations, an open Q&A session will be held when questions may be asked about any of the elements discussed earlier or any other topic contained within the EC's 2026-2028 Base WMPs.

WORKSHOP STRUCTURE (3/3)

Liberty and PacifiCorp will present on the following three questions:

- Inspection Technologies: What types of inspection technologies does your electrical corporation currently leverage, including any pilot projects for new technologies. If your electrical corporation currently did not pilot any new technologies, why not?
- Equipment Maintenance: Explain how your electrical corporation tracks failure and ignition rates for different equipment types. How does your electrical corporation use data to evaluate the fire risk of different equipment types, and adjust maintenance or inspection practices based on specific equipment risk?
- Vegetation Management: What remote sensing technologies such as LiDAR and satellite do your electrical corporation currently use for vegetation management inspections, and how do you prioritize work when LiDAR data is received?

**Additional electrical corporation-specific prompts will be covered in the corresponding electrical corporation's slides.*

AGENDA (1/2)

09:00 a.m.	Introduction from Energy Safety
09:15 a.m.	Liberty Presentation and Q&A
*10:*15 *a.m.*	*Break*
10:30 a.m.	PacifiCorp Presentation and Q&A
11:30 *p.m.*	*Lunch*
12:30 p.m.	LS Power Presentation and Q&A
01:05 p.m.	Horizon West Transmission Presentation

AGENDA (2/2)

01:15 p.m.	Trans Bay Cable Presentation
01:25 p.m.	Horizon West and Transbay Cable Q&A
01:35 p.m.	Break
01:45 p.m.	Open Q&A & Comment Session
02:00 p.m.	Adjourn

For participant planning purposes, Energy Safety has provided this agenda. Please note the start times of each segment and the order of business are subject to change.

WORKSHOP LOGISTICS (1/1)

Asking Questions:

- Ask written questions in the Microsoft Teams chat at any time.
- Hold all verbal questions until the designated Q&A sessions.
- Raise your hand during the Q&A sessions to verbally ask a question.
- Ask questions specific to each EC's presentation during the Q&A session following the presentation.
- Ask questions applicable to one or all ECs during the open Q&A at the end of the day.


LIBERTY
PRESENTATION

Wildfire Mitigation

Liberty Utilities

PROTECTING OUR COMMUNITY FOR TODAY AND FUTURE GENERATIONS

Eric Schwarzrock, Matt Wetzell, Eric Oiler, Steve Moore, Kyle Wright

July 29, 2025

Liberty Utilities

- ~50,000 customers
- ~1,500 miles of overhead lines
- ~600 miles of underground lines
- ~23,000 utility poles
- 12 substations
- Connected to Nevada Balancing Authority (not CAISO)
- 120 employees

Components of the Wildfire Mitigation Plan:

- Vegetation management
- Infrastructure hardening
- Situational awareness
- Risk-Based relay profiles and PSPS

Key 2026 Targets and Expenditures

Per the 2026-2028 Base WMP, Liberty plans to spend approximately $36M in 2026

Approximately $23M planned capital spend on grid hardening activities

- 3.9 miles of covered conductor
- 1.1 miles of traditional overhead hardening
- 400 pole replacements
- 5.2 miles of open wire/grey wire secondary lines
- 500 fuses replaced with non-expulsion fuses
- 60 tree attachment removals

Approximately $12M planned O&M spend on vegetation management activities

- 920 miles of ground-based and LiDAR inspections
- 700 miles of tree clearance pruning
- 220 miles of hazard tree removal
- Fuel reduction projects (4,900 poles cleared & 280 acres treated)

Liberty Sensitive Relay Profile ("SRP") Program

- Liberty understood that SRP implementation was one of the highest value mitigations to quickly reduce risk.
  - Decided to speed up initial implementation. All capable equipment will have SRP enabled by August 31, 2025.
- Direxyon modelling calculated the risk reduction at 74%.
- Once the initial implementation is complete, our vision is to continue to improve the program with these future considerations in mind:
  - How can we have remote-control over all devices?
  - Can we add automated control based on real-time condition monitoring?
  - Can we add more devices so that fewer customers experience outages?
  - How can we better communicate with customers?

Vegetation Management

LiDAR Vegetation Management Inspections

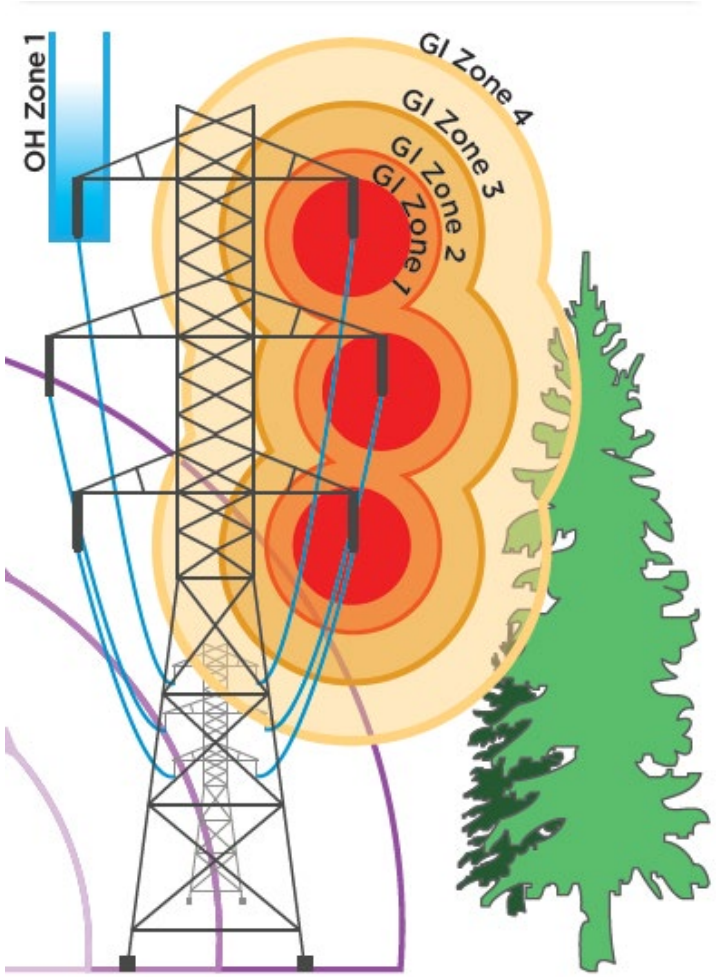
- **Purpose**: Identify vegetation encroachments (grow-in, fall-in) near transmission and distribution
- **Coverage**: 700 line miles (605 line miles of distribution, 95 line miles of transmission) across Liberty service territory, annually.
- **Resolution**: ≥35 points per square meter (ppsm) for high accuracy
- **Data products**: Point cloud data, ESRI dataset, vegetation analysis, tree crowns/treetop points, poles, conductors, software

Vegetation Management

LiDAR Vegetation Management Inspections

Data Ingestion & Work Prioritization

- **Data collection/Processing**: Conducted via fixed-wing aircraft. Processing includes calibration, classification, vegetation segmentation.
- **Delivery & Integration:** Delivered in monthly increments and hosted in 3rd party software platform. Annual LiDAR data is then uploaded into Liberty's VM work management software.
- **Analysis:** Vegetation encroachments are analyzed against clearance thresholds.
- **Work Packet Creation:** Work orders are created and generated into work packets by circuit or region and assigned to vegetation contractors.

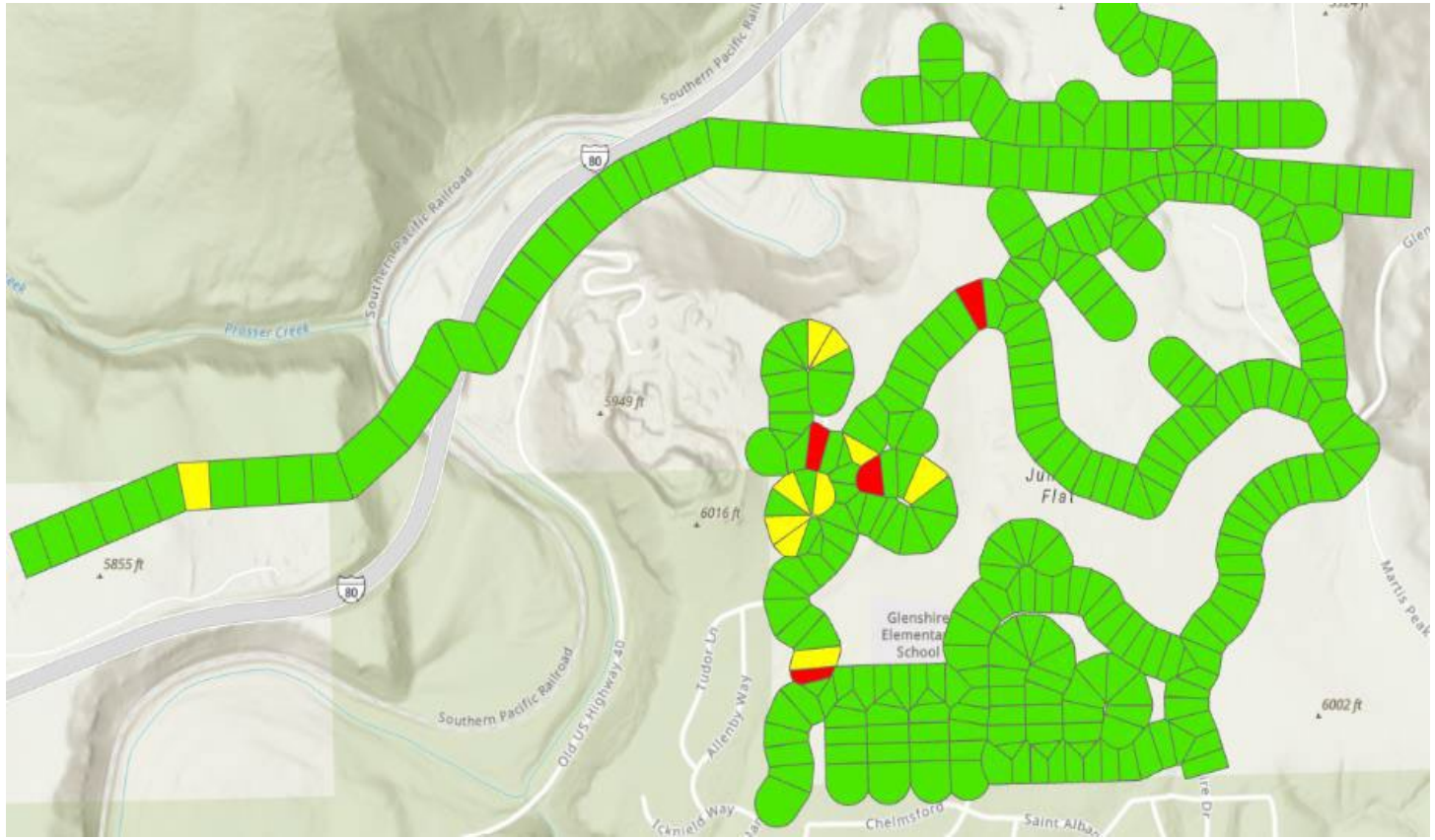


Vegetation Management

LiDAR Vegetation Management Inspections

Tree Health Monitoring and Satellite Imagery

- **Tree Health Monitoring:** Liberty began tree health monitoring via orthoimagery collected from LiDAR inspections 2022 to 2023
- **Satellite Imagery:** Liberty began to pilot health monitoring via satellite imagery in 2024. Deviations in chlorophyll detection are aggregated by span and classified into high, medium, or low vegetation stress levels. Included with LiDAR deliverable package.



Vegetation Management

LiDAR Vegetation Management Inspections

Lessons Learned

- **Supplementing ground-based inspections:**
  - Inspection frequency increased
  - LiDAR is cost effective and efficient
  - Allows ground-based inspections to focus on hazard tree assessments and unit reduction
- **Reduced maintenance workload:**
  - 64% decrease in total trees removed/pruned (2022-2024)
  - Average distance to conductor has increased since 2021
- **Program management:**
  - LiDAR-Informed Planning – guides annual VM work
  - Change detection – validates program effectiveness
  - Monitoring – Tracks outcomes of partner-led forest and fuels treatments
- **Vegetation Data:**
  - Challenges with tree grouping – affects health and risk scores
  - Tree removals – influence chlorophyll detection compared to baseline
  - LiDAR – great for managing encroachments and planning; not a substitute for arborist hazard tree assessments

Inspection Type	Total Cost	Miles Covered	Cost per Mile
Combined Ground Based	$784k	395	$1,983
LiDAR	$541k	700	$773

Inspection Type	Miles Covered	Duration
Combined Ground Based	395 miles	12 months
LiDAR	700 miles	~2-3 weeks

Inspection Technologies

Inspection Technologies Utilized at Liberty

- Asset inspection technologies piloted in 2023-2025 WMP cycle
  - Infrared inspections: In 2023, Liberty piloted and completed 0.1 miles of fixed wing drone infrared inspections on its transmission assets.
  - Drone inspections: Liberty piloted one mile of drone inspections in 2024, utilizing an internal drone and pilot. Liberty identified benefits for drone inspections for outage management due to hazardous winter conditions, including affected infrastructure in avalanche zones.
  - LiDAR inspections: In addition to its annual use for VM inspections, Liberty performed a LiDAR asset inspection of its system in 2024, with a focus on gaining increased visibility and data for mapping tree attachments and secondary wires.
- Asset inspection technologies in 2026-2028 WMP cycle
  - Liberty will continue to utilize drone inspections for outage restoration.
  - Liberty will not pilot additional technologies but will follow industry developments and successful implementation of technologies at other utilities for wildfire mitigation.
- Fulcrum for tracking inspections and creating work orders

Equipment Risk

- Equipment Failures
  - Schneider ADMS Outage Management System
- Ignition Rates
  - Ignition Reporting Fulcrum Application
- Fire Risk
  - Inputs
    - Asset, Outage, and Ignition Data as Inputs
    - Technosylva WFA and WRF modeling
  - SME Expertise is used in conjunction with Direxyon to develop the risk model.

Risk modeling drives the decision making of WMP initiatives while General Order requirements drive Liberty's maintenance and inspection practices.

Thank you


LIBERTY
Q&A

15-MINUTE BREAK

Back at 10:30 am

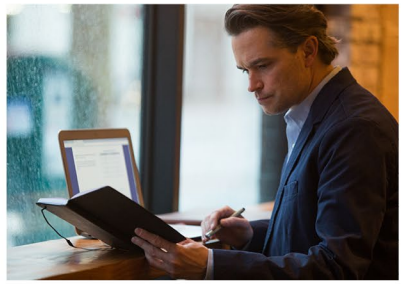
PACIFICORP PRESENTATION

2026-2028 Base Wildfire Mitigation Plan Workshop

July 29, 2025





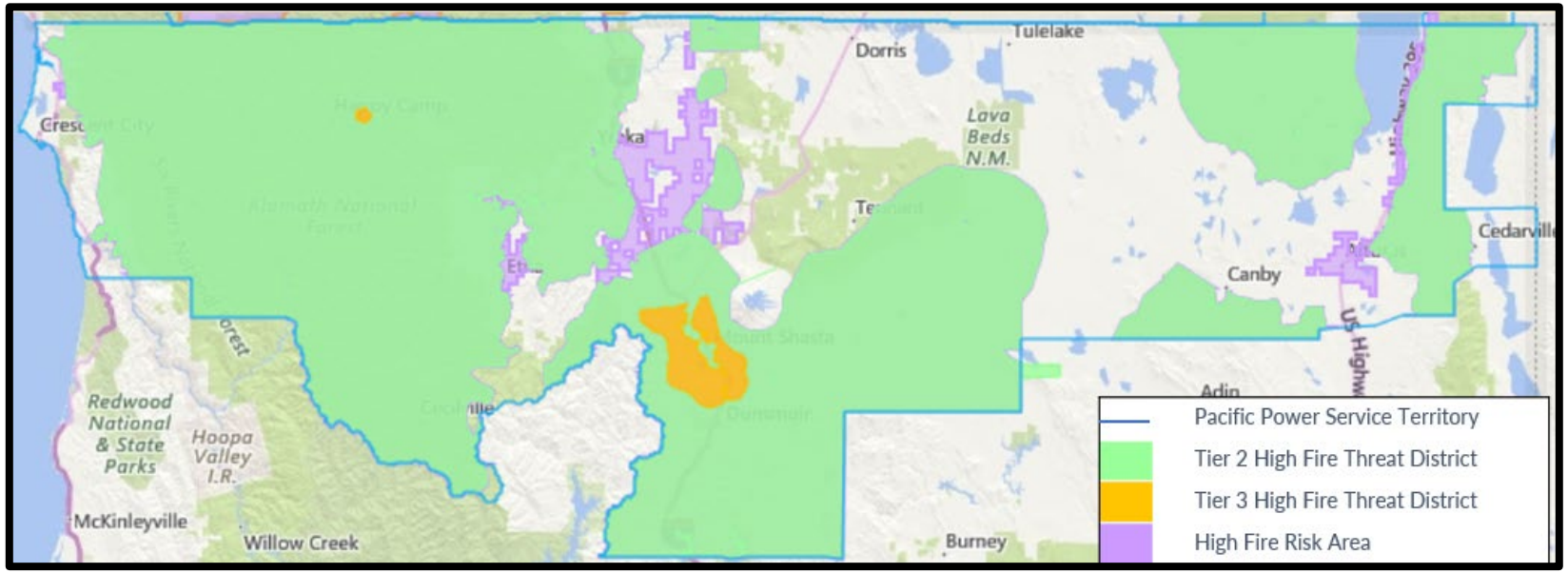



PACIFIC POWER®

POWERING YOUR GREATNESS

Agenda

- Equipment Inspection Technologies
- Vegetation Management Technologies
- Equipment Failure Tracking
- Enhanced Safety Settings



Characteristic	HFTD Tier 2	HFTD Tier 3	Non-HFTD	Total
Area Served (sq. mi.)	7,015	129	4,149	**11,292**
Number of Customers Served	18,718	1,189	27,489	**47,396**
Overhead Transmission Lines (circuit miles)	319	23	386	**729**
Overhead Distribution Lines (circuit miles)	770	40	1,706	**2,516**
Underground Transmission Lines (circuit miles)	0	0	0	**0**
Underground Distribution Lines (circuit miles)	348	55	236	**640**

Wildfire Mitigation Approach

Long-Term Risk	Situational Awareness	Operational Practices	System Strengthening and Resilience
• Informs program development	• Short term view of conditions informs operational practices	• Actions taken to operate the system safely	• Equipment inspections, vegetation management, system hardening

Engagement

- Customers
- Communities
- Government Agencies
- Public Safety Partners
- Utilities
- Tribal Nations

Presentation Questions

- Equipment Inspection Technologies: What types of inspection technologies does your electrical corporation currently leverage, including any pilot projects for new technologies. If your electrical corporation currently did not pilot any new technologies, why not?
- Vegetation Management Technologies: What remote sensing technologies such as LiDAR and satellite does your electrical corporation currently use for vegetation management inspections, and how do you prioritize work when LiDAR data is received?
- Equipment Failure Tracking: Explain how your electrical corporation tracks failure and ignition rates for different equipment types. How does your electrical corporation use data to evaluate the fire risk of different equipment types, and adjust maintenance or inspection practices based on specific equipment risk?
- Enhanced Safety Settings: Explain the process for assessing the utility's Enhanced Fire Risk (EFR) Settings in its service territory.

Equipment Inspection Technologies

What types of inspection technologies does your electrical corporation currently leverage, including any pilot projects for new technologies. If your electrical corporation currently did not pilot any new technologies, why not?

Presenters:
Travis Rocha, Director, Lines Inspection
Michael Thames, Senior Engineering Operations Project Manager

Subject Matter Experts:
Brian Pagel, Manager, Asset Planning
Eddie Summit, Director, Asset Maintenance and Compliance

Current Inspections

Patrol

- Brief assessment conducted from a reasonable vantage point
- Checks for obvious damage, defects, potential ignition risks, safety hazards and right-of-way encroachments
- GO 95, GO 165, NESC, policy and procedure compliance

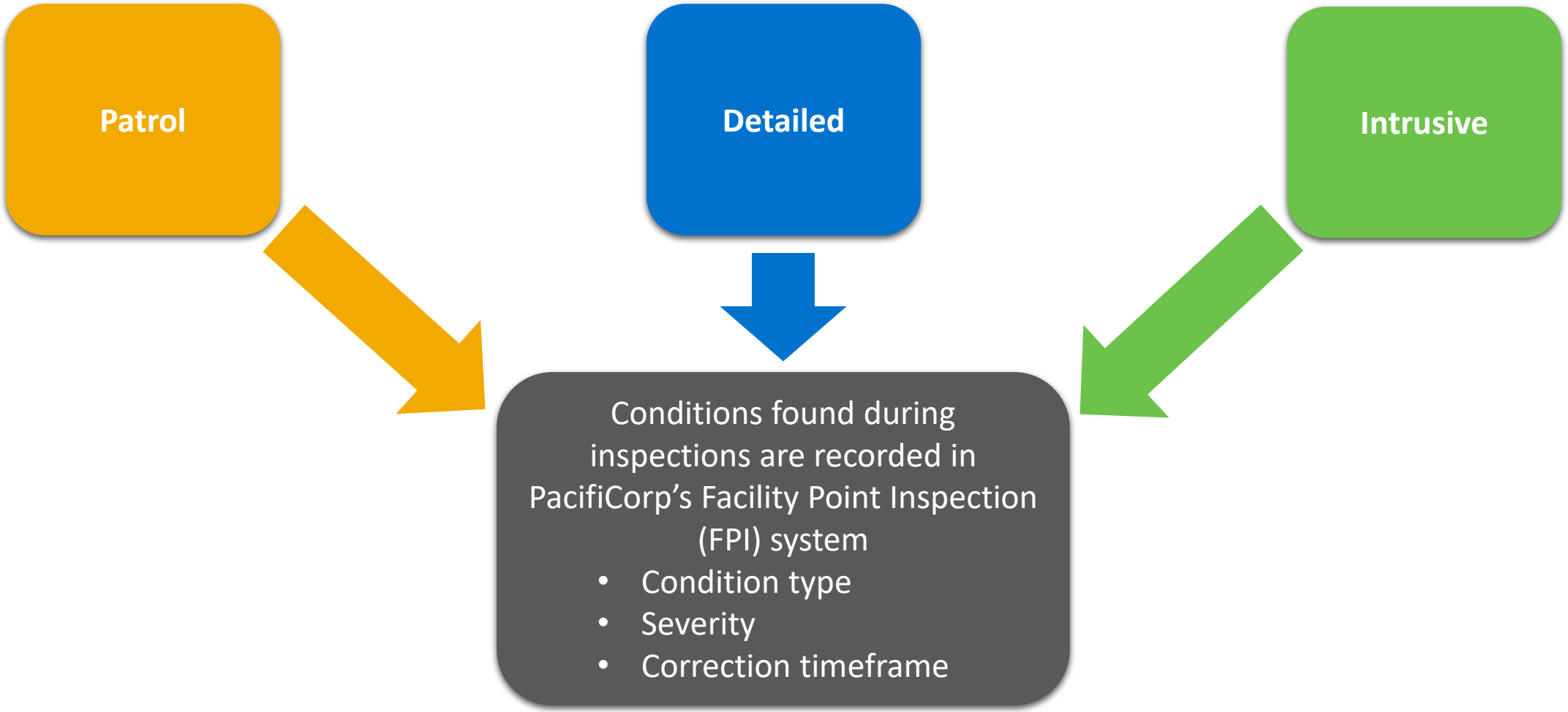
Detailed

- Careful visual inspection accomplished by visiting each structure as well as inspecting spans between structures
- GO 95, GO 165, NESC, policy and procedure compliance

Intrusive

- Visual and Intrusive Test performed, pole is sounded
- Inspection (bore) holes are used to determine shell thickness and test for decay
- The bore holes are drilled to determine if decay is present and if found, the severity of the decay
- Decay identified may include excavation around the pole
- Treatment preservatives applied at this time as prescribed by findings & policy

Conditions


Patrol
Detailed
Intrusive
Conditions found during inspections are recorded in PacifiCorp's Facility Point Inspection (FPI) system
• Condition type
• Severity
• Correction timeframe

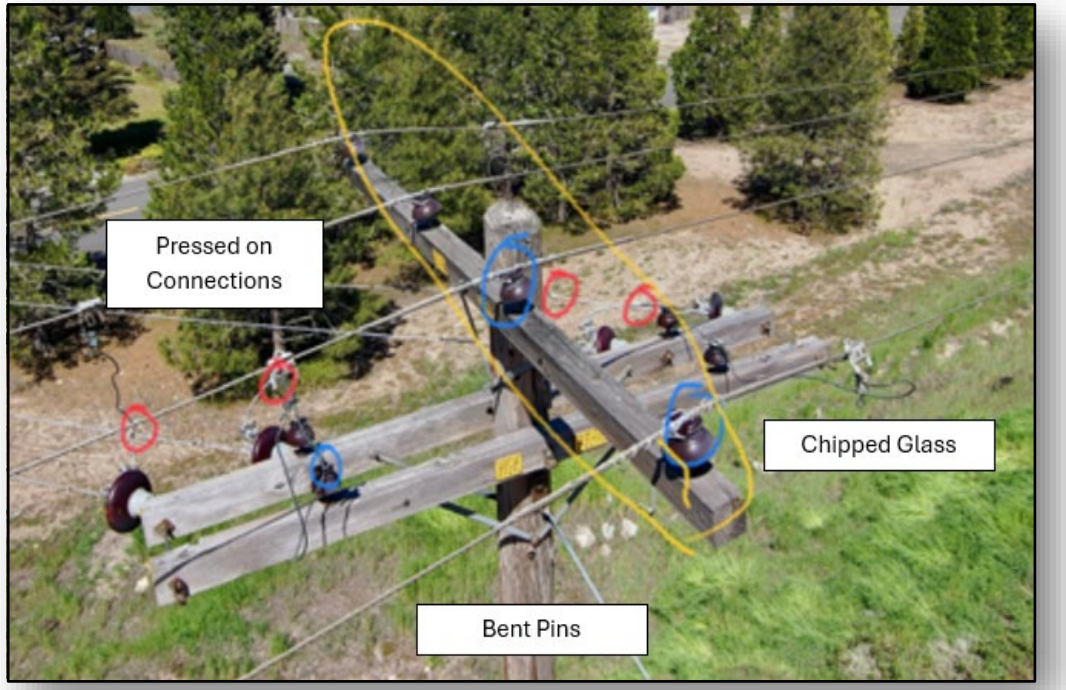
Inspection Technologies: Current Use of Drones

Drone as a Tool

- Utilize drones to support standards patrol and detailed inspections
- Drone inspections are utilized to view pole tops and can be a great tool for difficult to access poles
- Both Transmission Patrolman and Distribution Lineman hold FAA drone pilot certifications

Drone Inspections Performed by Request

- Drone inspections may be requested by various PacifiCorp groups, including Asset Management, Local Operations, System Operations, Engineering, and others
- Drones may be deployed to assist with inspections on circuits demonstrating degraded or substandard performance



Inspection Technologies: Future Use of Drones

Pilot: Planned Inspection Cycle

- Establish a drone inspection program to conduct regular enhanced distribution drone inspections

Beyond Visual Line of Sight (BVLOS)

- Perform beyond visual line of sight inspections
- Implementation is subject to FAA rulemaking and regulatory approvals

Software

- Utilize software to support post-processing and analysis of inspection data

Additional Sensors

- Conduct targeted infrared drone inspections to detect thermal anomalies and equipment concerns

Inspection Technologies: Infrared Inspections

Purpose & Practice

- Infrared inspections are used to detect elevated equipment temperatures that may indicate conditions requiring corrective action
- Inspections are typically performed using a vehicle-mounted camera. In areas with limited access, drones or helicopters may be used as alternatives
- All inspections are conducted by a license thermographer, who identifies thermal anomalies that may indicate equipment issues

Infrared Inspections

- Infrared inspections are currently conducted on transmission lines located in the HFTD
- A pilot program is underway for distribution circuits in the HFTD
- Next steps include evaluating pilot results to determine whether the program should be implemented on a permanent basis

Vegetation Management Technologies

What remote sensing technologies such as LiDAR and satellite does your electrical corporation currently use for vegetation management inspections, and how do you prioritize work when LiDAR data is received?

Presenters:
Josh Hooley, Director, Vegetation
Brian King, Director, Vegetation Support

Remote Sensing

Satellite Pilot Project

- **Objective** - To assess the effectiveness and accuracy of remote sensing **satellite** technologies
  - inform ways in which it can be strategically integrated it into PacifiCorp's vegetation management program
  - support risk modeling efforts
- **Locations**
  - Oregon and Utah
- **Timeline**
  - In progress (data acquisition), expected delivery September 2025

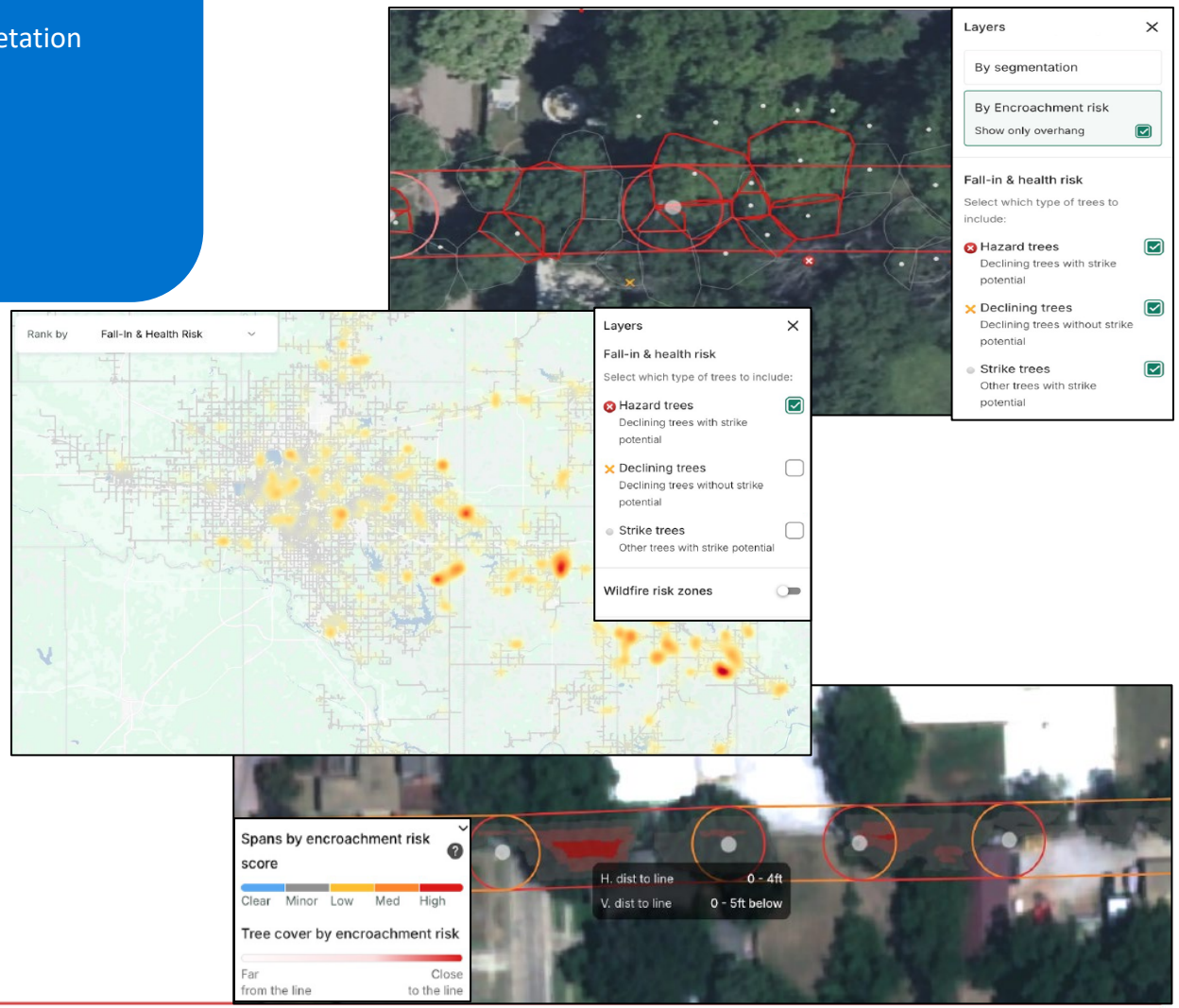
Vegetation Characterization

- Number of strike trees
- Tree canopy cover/height
- Deciduous versus Conifer
- Clear spans (no vegetation)
- Species identification

Augment Inspection

- Hazard trees
- Encroachment
- Transmission right-of-way planning

Risk Analysis



Equipment Failure Tracking

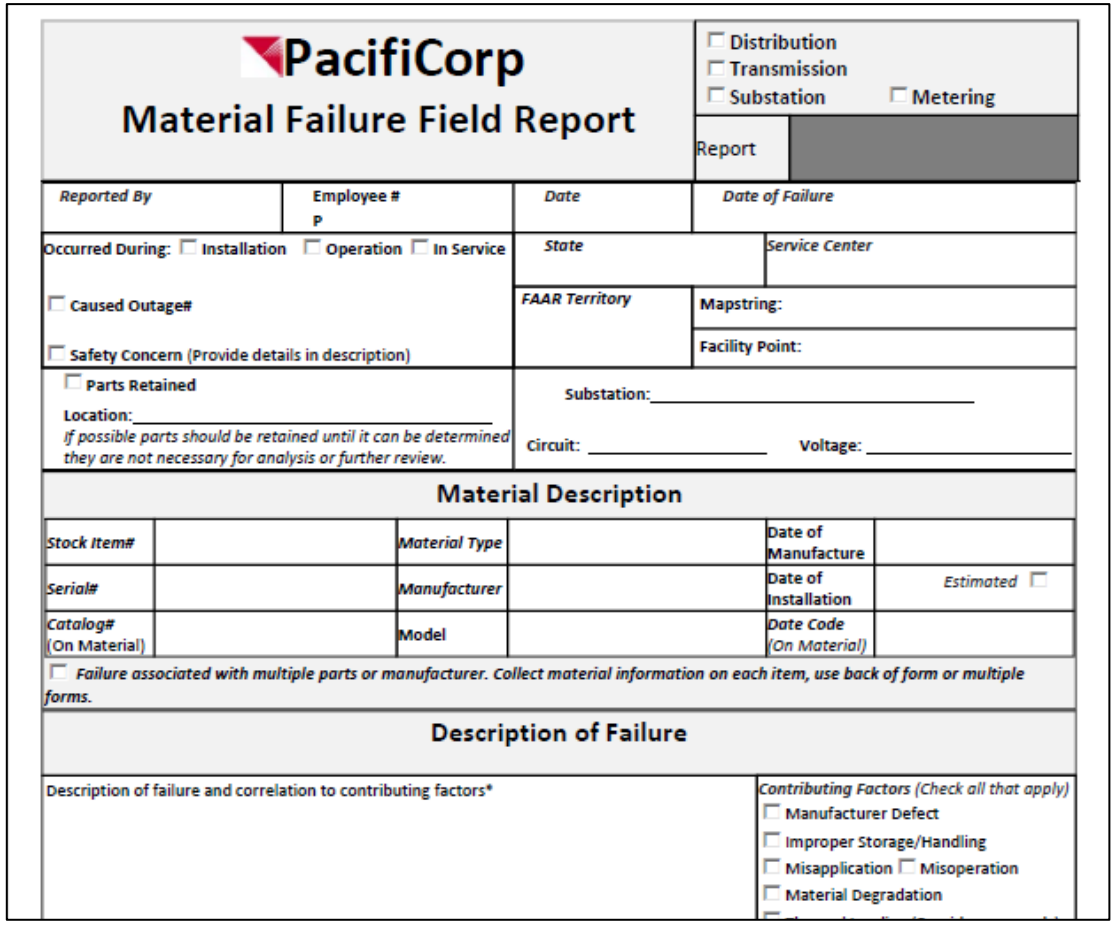
Explain how your electrical corporation tracks failure and ignition rates for different equipment types. How does your electrical corporation use data to evaluate the fire risk of different equipment types, and adjust maintenance or inspection practices based on specific equipment risk?

Presenters:
Joseph Ryan, Director, Engineering Standards and Grid Modernization
Eddie Summit, Director, Asset Maintenance and Compliance
Chase Talbot, Director Transmission and Distribution Asset Performance

Subject Matter Experts:
Kevin Benson, Managing Director Asset Risk and Performance
Jonathan Connelly, Director, Real Time Grid Engineering

Material Failures Reporting

- PacifiCorp maintains a material failure database and a reporting process that includes investigations to determine root cause
- This database was not created to monitor equipment failure rates
- The reporting process depends on field personnel to identify and report failures, with mandatory reporting required when a material failure results in an outage
- While the system is not designed to automatically identify patterns, repeated failures—when recognized through field experience or during reviews—trigger expanded investigations to assess the broader scope of the issue
    - In some cases, these investigations have informed changes to maintenance practices and inspection protocols, though the process is generally not used for that purpose



PacifiCorp

Material Failure Field Report

☐ Distribution ☐ Transmission ☐ Substation ☐ Metering

Report

Reported By	Employee # P	Date	Date of Failure
Occurred During: ☐ Installation ☐ Operation ☐ In Service		State	Service Center
☐ Caused Outage#		FAAR Territory	Mapstring:
☐ Safety Concern (Provide details in description)			Facility Point:

☐ Parts Retained

Location:_____

If possible parts should be retained until it can be determined they are not necessary for analysis or further review.

Substation:_____

Circuit: _____ Voltage: _____

Material Description

Stock Item#		Material Type		Date of Manufacture	
Serial#		Manufacturer		Date of Installation	Estimated ☐
Catalog# (On Material)		Model		Date Code (On Material)	

☐ *Failure associated with multiple parts or manufacturer. Collect material information on each item, use back of form or multiple forms.*

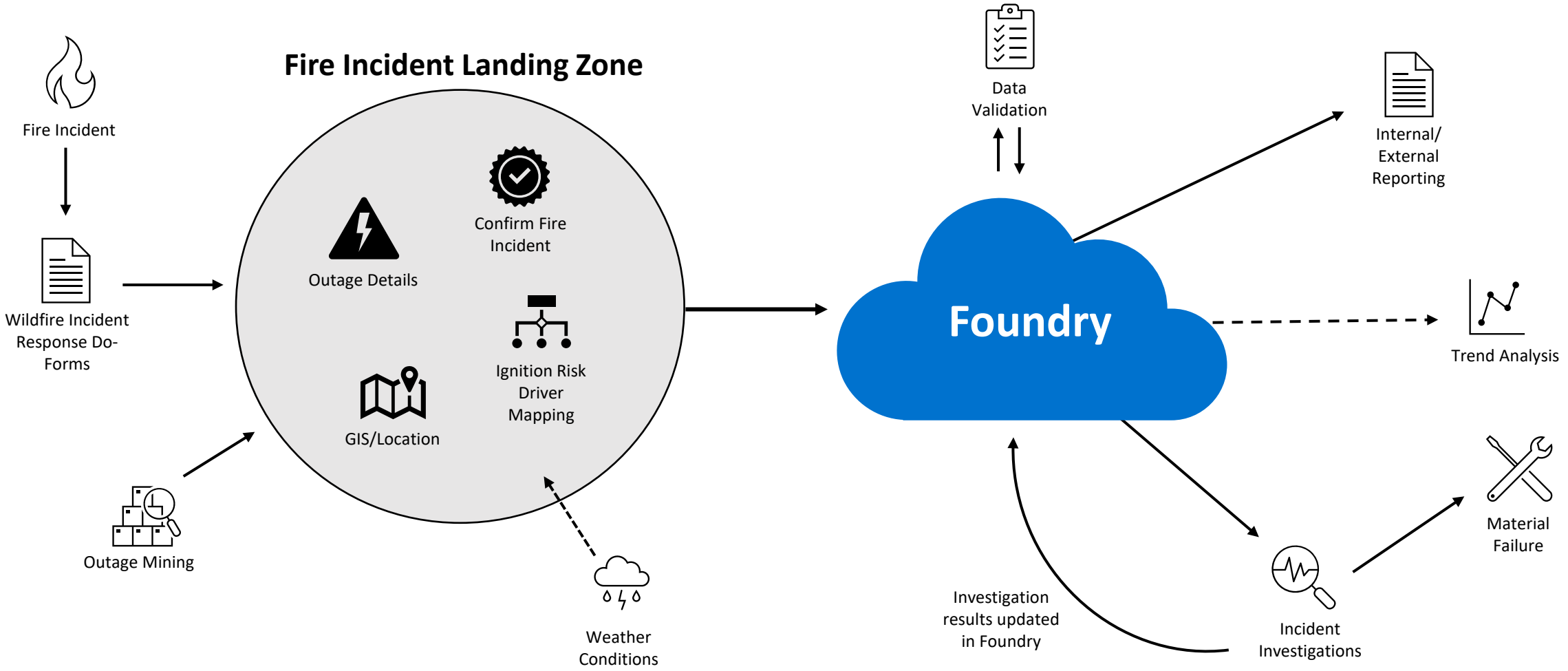
Description of Failure

Description of failure and correlation to contributing factors*	Contributing Factors (Check all that apply) ☐ Manufacturer Defect ☐ Improper Storage/Handling ☐ Misapplication ☐ Misoperation ☐ Material Degradation

Material Failure Process Flow

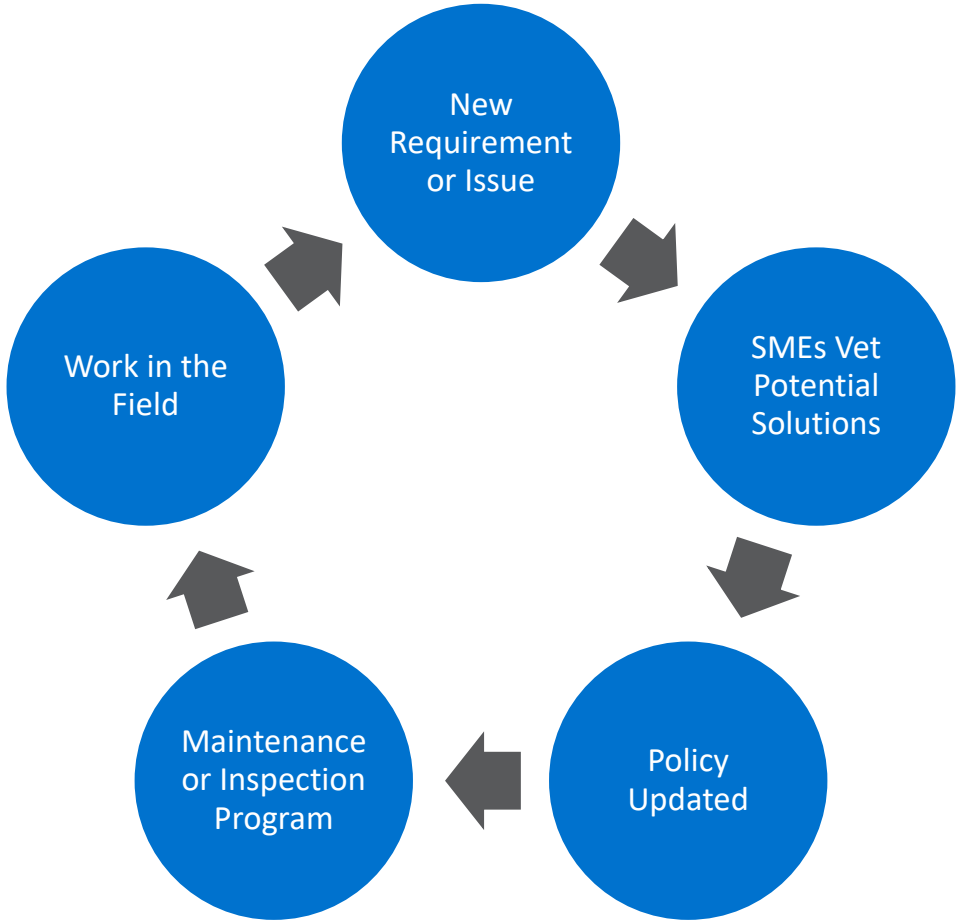
- Material failure case is reported via Material Failure Report (MFR) submission or Do Form
- Case is submitted in MFR database
- Standards engineer reviews case
  - Gathers necessary data/information
  - Determine if material is under warranty or manufacturing issue
- Perform investigation
  - Internal analysis and review with applicable stakeholders
  - Send material off for testing if necessary
  - Discuss with manufacturers
- Determine path forward
  - Review any test results for cause of failure
  - Determine if further material replacement is necessary
  - Evaluate whether new material should be procured to replace existing material
- Communicate major material/equipment changes via Engineering News Flash email
- Log results and conclusions in MFR database
- Inform submitter of results and/or recommendations

Fire Incident Tracking Process



Impact on Equipment Inspections

- PacifiCorp bases time-based inspection and maintenance cycles on the following
  - NERC and state regulatory requirements
  - Manufacturer recommendations
  - Operational experience
- Scheduled and ad hoc meetings are held with between technical subject matter experts, operations and support functions to discuss known issues, service bulletins, new regulatory requirements and other new information
- Policies and procedures are developed or updated as needed to incorporate new requirements
- New programs are created, and existing programs are modified to align with policies and procedures



Enhanced Safety Settings

Explain the process for assessing the utility's Enhanced Fire Risk (EFR) Settings in its service territory.

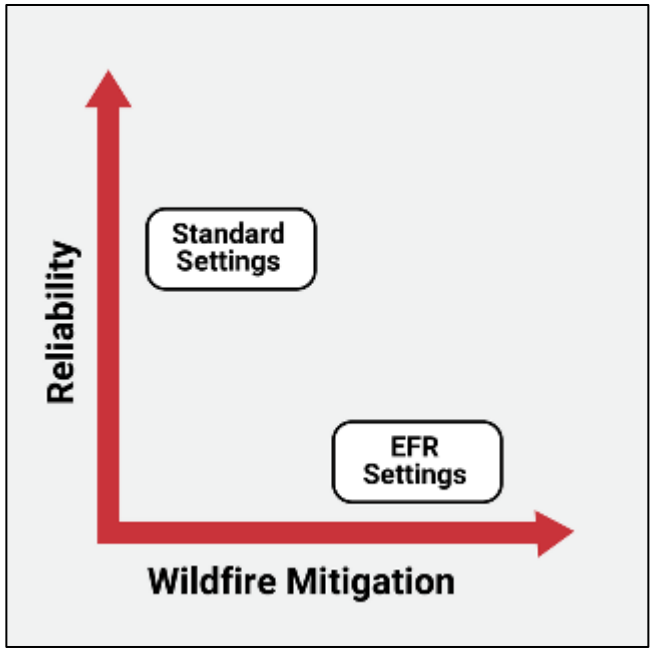
Presenter:
Jonathan Connelly, Director, Real Time Grid Engineering

Subject Matter Expert:
Chase Talbot, Director Transmission and Distribution Asset Performance

Enhanced Safety Settings vs Elevated Wildfire Risk

Enhanced Safety Settings (ESS)
Modes of operation for transmission and distribution systems during times of elevated wildfire risk. This includes adjustments to distribution relays during periods of elevated wildfire risk that are intended to minimize the energy release component through modified protective settings or operational practices and the removal of reclosing functionality on transmission with modified reclosing schemes on distribution assets based on daily wildfire risk thresholds and load restoration requirements. ESS modes will vary based on relay type and conditions.

Elevated Fire Risk (EFR) Settings
The specific relay and settings scheme implemented within ESS on microprocessor-based relays.



Process for Determining Worst Performing ESS Circuits

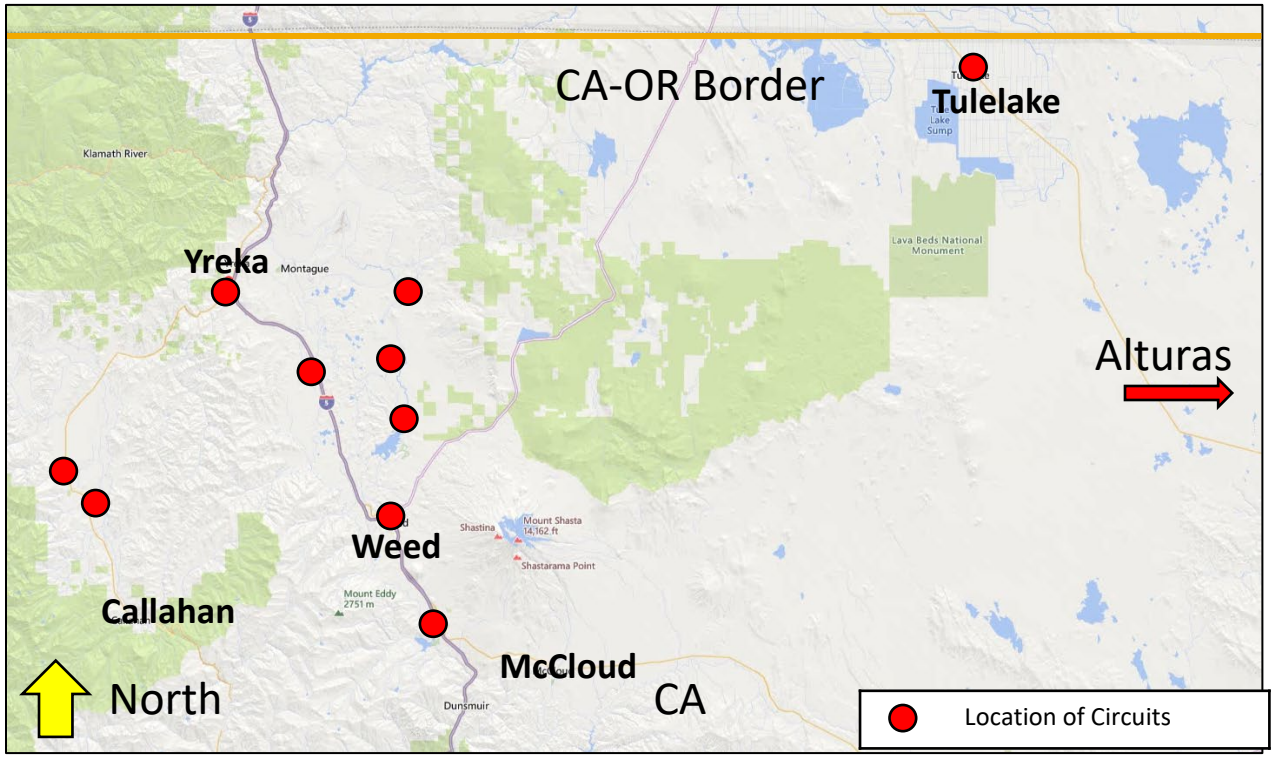
The process for determining worst performing ESS circuits at PacifiCorp involves utilizing subject matter expert/Operations input and the following metrics:

Number of Outages		Customer Minutes Lost (CML)		Meteorology Wildfire Risk Days
Total number of outages on the circuit: • Circuit breaker • Recloser • Fuse saver • Fuse • Transformer	+	The number of customers multiplied by the outage duration. Total CML calculated from the number of outages on the circuit.	+	The number of days the circuit is in elevated or significant wildfire risk. Dictates the number of days the circuit is in ESS settings.

Generally, a circuit with higher number of outages, customer minutes lost, and meteorology risk days will rank higher than a circuit with a lower number.

2024 Annual Evaluation of ESS Worst-Performing Circuits

Substation	Circuit	Circuit Length (overhead circuit miles)	Number of Outages in Past 3 Years	Cumulative Outage Duration (Hours)	Cumulative number of Customers Impacted by Outages	2024 PacifiCorp Rank Based	Projects
Shastina	4G1	26.0	38	141.6	10,089	11	Fuse saver to isolate bad underground and replaced all expulsion fusing (WMP)
Little Shasta	6G25	52.4	35	196.8	2,766	49	New relay settings
Tulelake	5L82	94.7	31	99.4	6,565	87	Two reclosers planned for installation
Mt Shasta	5G79	33.9	30	112.3	21,496	34	New substation and spacer cable (WMP). Now served from different substation
Alturas	5L87	66.3	28	87.5	10,867	38	New settings, recloser relocation, SCADA, and pending expulsion fuse replacement
Big Springs	5G23	78.1	23	62.9	5,126	131	Replaced expulsion fusing and planned SCADA communications
Lucerne	5G21	97.1	23	59.2	7,713	94	New relay settings and recloser installation
Weed	5G83	78.9	23	78.7	7,582	212	Spacer cable, replaced all expulsion fusing,
Walker Bryan	5G41	88.2	19	83.3	3,951	69	Planned SCADA communications
Greenhorn	5G7	49.9	17	112.7	7,300	53	Replaced all expulsion fusing and planned SCADA communications



ESS Worst Performer Future Improvements

- ☑ Inspection conditions (High impedance fault (HIF) and reliability) (Completed end of 2024)
- ☑ Meteorology Terrain/Fuels Polygons (Completed at the beginning of 2025)
- ☐ New tools to monitor real-time changes/updates to ESS worst performing metrics (Planned completion for 2026)
- ☐ Outage Cause codes (Planned completion for 2026)

Example of Meteorology Terrain/Fuels Polygons

Recap

• Equipment Inspection Technologies: What types of inspection technologies does your electrical corporation currently leverage, including any pilot projects for new technologies. If your electrical corporation currently did not pilot any new technologies, why not?	PacifiCorp is utilizing drone on demand to support asset inspections. Infrared technology is currently used for transmission inspections and is being piloted for distribution inspections.
• Vegetation Management Technologies: What remote sensing technologies such as LiDAR and satellite does your electrical corporation currently use for vegetation management inspections, and how do you prioritize work when LiDAR data is received?	PacifiCorp is performing a pilot of satellite technology in Oregon and Utah to identify potential application for different use cases.
• Equipment Failure Tracking: Explain how your electrical corporation tracks failure and ignition rates for different equipment types. How does your electrical corporation use data to evaluate the fire risk of different equipment types, and adjust maintenance or inspection practices based on specific equipment risk?	PacifiCorp maintains a material failure database and a reporting process that includes investigations to determine root cause. Ignitions are reported and tracked. PacifiCorp bases time-based inspection and maintenance cycles on regulatory requirements, manufacturer recommendations and operational experience.
• Enhanced Safety Settings: Explain the process for assessing the utility's Enhanced Fire Risk (EFR) Settings in its service territory.	Assessment is currently performed utilizing subject matter expertise and metrics on outages, customer minutes lost and wildfire risk days.

PACIFICORP Q&A

LUNCH BREAK

Back at 12:30 pm

LS POWER PRESENTATION

JULY 2025

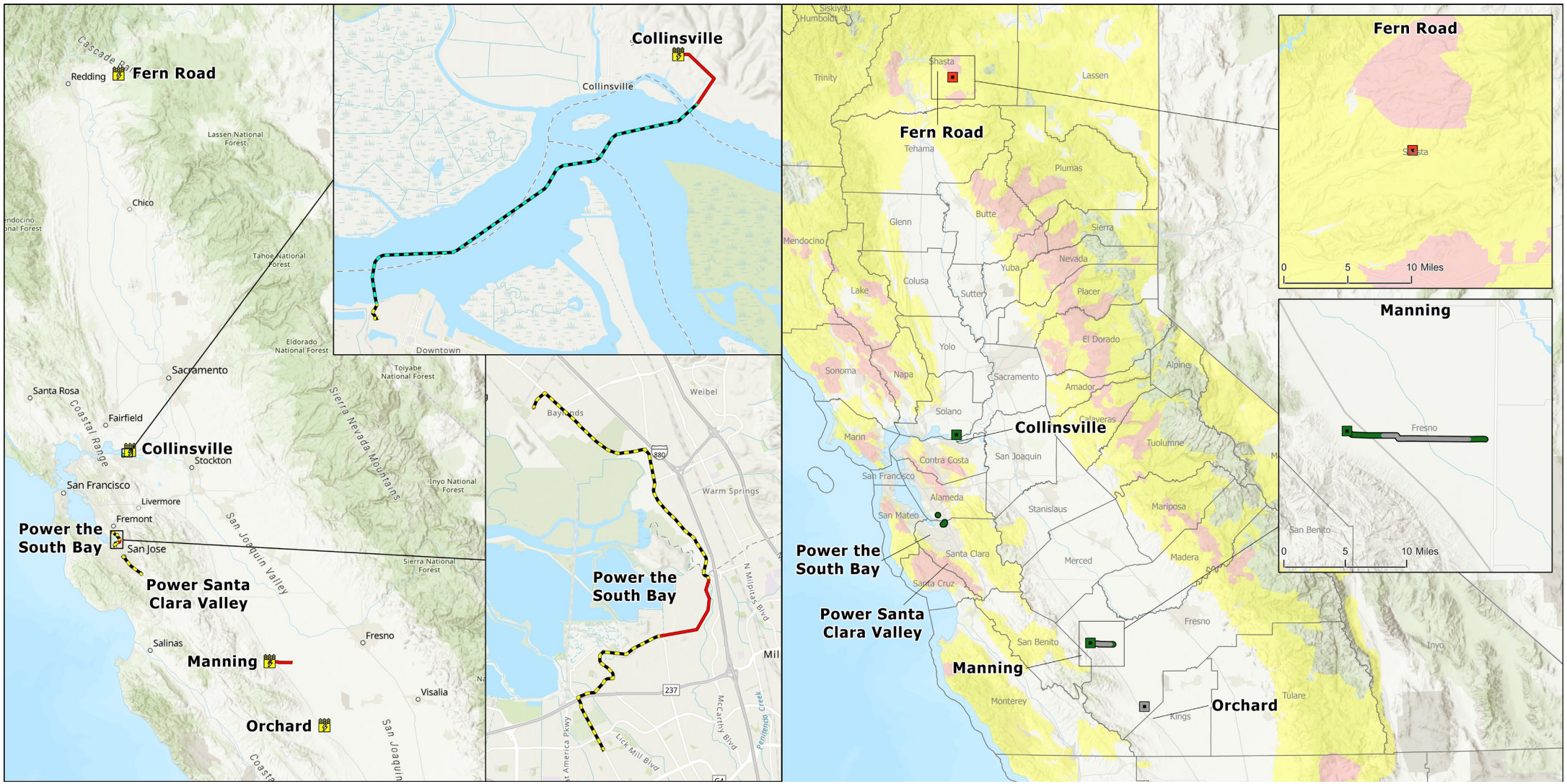
LSPGC Wildfire Mitigation Plan 2026–2028

Rituraj Yadav, Associate Manager – Wildfire Mitigation (Presenter)
Heath Holt, Senior Manager – HSE (Q/A)
Ross Hohlt, Director – Asset Management (Q/A)
James Rekowski, Associate Project Manager (Q/A)

Table of Contents

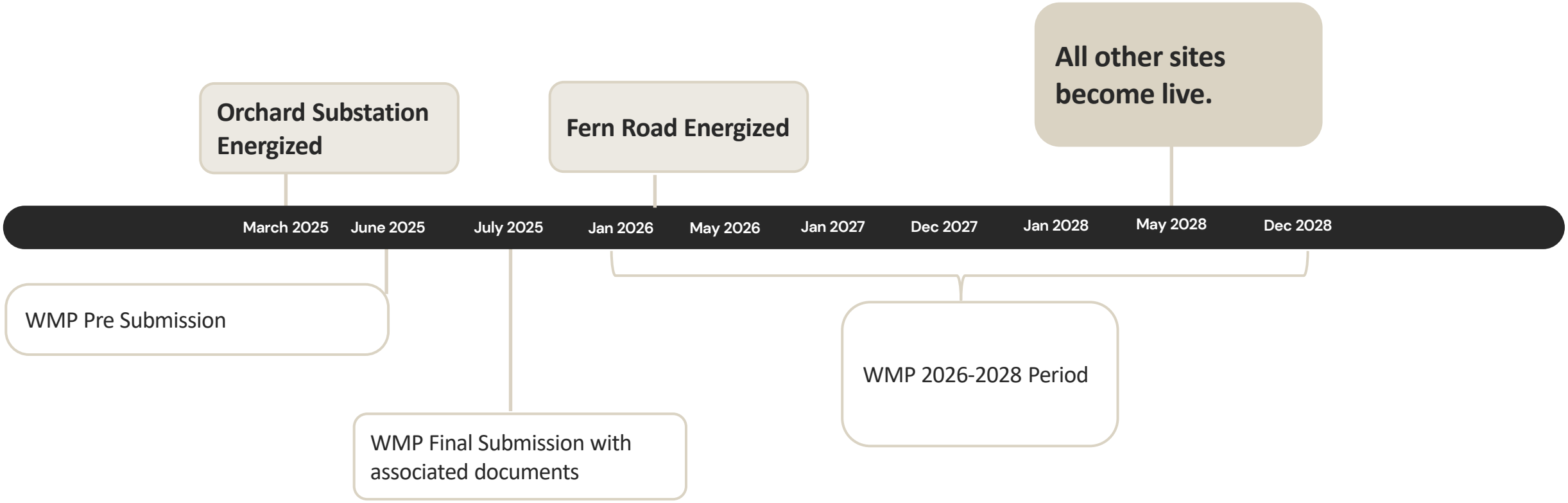
LSPGC

Service Territory & Risk Profile



LSPGC

WMP & Energization Timeline



Footnote

LSPGC Innovations & New Aspects

1

SUBSTATION AUTOMATION & ADVANCED PROTECTION

- Remote 24-hr SCADA control, STATCOM with automatic shutdown
- Broken Conductor detection & Gridscope real-time fault records

2

INTEGRATING IGNITION DETECTION SUITE

- 29 HD cameras, hard-wired fire alarms & SCADA transformer monitoring
- Feasibility study planned for AI smoke/flame detection at new assets in HFTD.

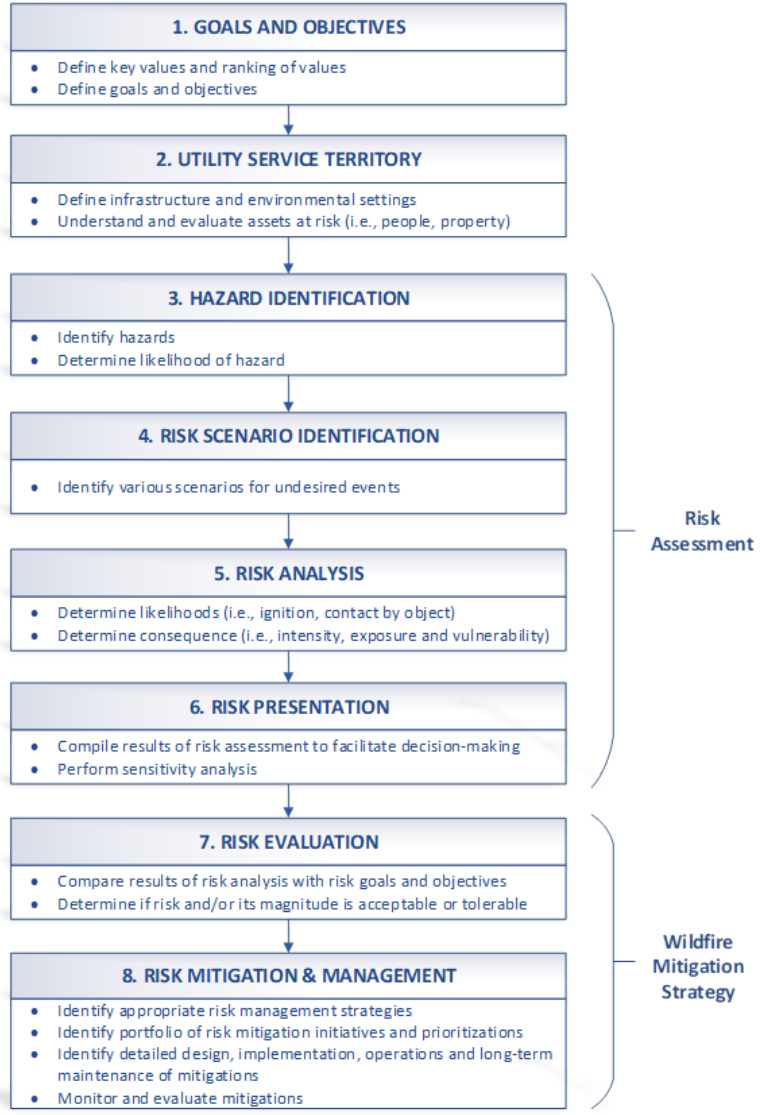
3

ENTERPRISE SYSTEMS & DATA PLATFORMS

- Roadmap: 2026-2028 targets; vegetation data hub, automatic weather feeds, risk dashboards

- **LSPGC currently has only one energized asset, Orchard substation.**

Risk Analysis Framework



LSPGC Risk Analysis Framework

1

WILDFIRE CONSEQUENCE FOCUS

- With no ignition history yet, LSPGC assumes ignitions can occur equally at all present and future assets and treats every modeled ignition as a wildfire.

2

PSPS POSTURE

- As an ITO, no PSPS events to date; procedures will be formalized as assets energize.

3

CONTINOUS FEEDBACK LOOPS

- Annual operator reviews of SCADA/alarm performance & post-incident forensics.

- **LSPGC currently has only one energized asset, Orchard substation.**

LSPGC

Key Takeaways

1. Small but growing grid footprint

- Only the Orchard STATCOM substation is energized today, outside High-Fire-Threat Districts (HFTDs).
- Fern Road STATCOM (Tier 2 HFTD) energizes in Q1 - 2026 and additional lines/substations follow in Q2 2028, expanding LSPGC's portfolio/footprint.

2. Risk hot-spot: Fern Road Substation

- In the plan's risk-weighted ranking, Fern Road holds majority of overall utility risk, far exceeding any other location and therefore receives top-priority.

3. Five pillar mitigation strategy continues from the 2023-2025 cycle

- Grid design & maintenance, vegetation management, situational awareness, emergency preparedness, and community engagement remain the organizing framework for all activities.

4. Conservative, data-limited risk methodology

- With no ignition history yet, LSPGC assumes ignitions can occur equally at all present and future assets and treats every modeled ignition as a wildfire; likelihood components will be refined when operational data accrues.

5. Building a data foundation for future risk quantification

- Near-term priorities include creating incident and risk-event tracking databases to capture equipment faults, ignitions, and near-misses critical inputs for evolving the quantitative risk model over the next three-year cycle.

LS POWER Q&A


HWT
PRESENTATION

HORIZONWEST
TRANSMISSION

Horizon West Transmission, LLC
2026-2028 Wildfire Mitigation Plan

Submission Meeting

July 29, 2025

Lenneal Gardner – Sr. Manager Regulatory Affairs
Alexandre Veilleux – Sr. Engineer

Horizon West operates the Suncrest SVC, a resiliency resource to the Greater San Diego County grid

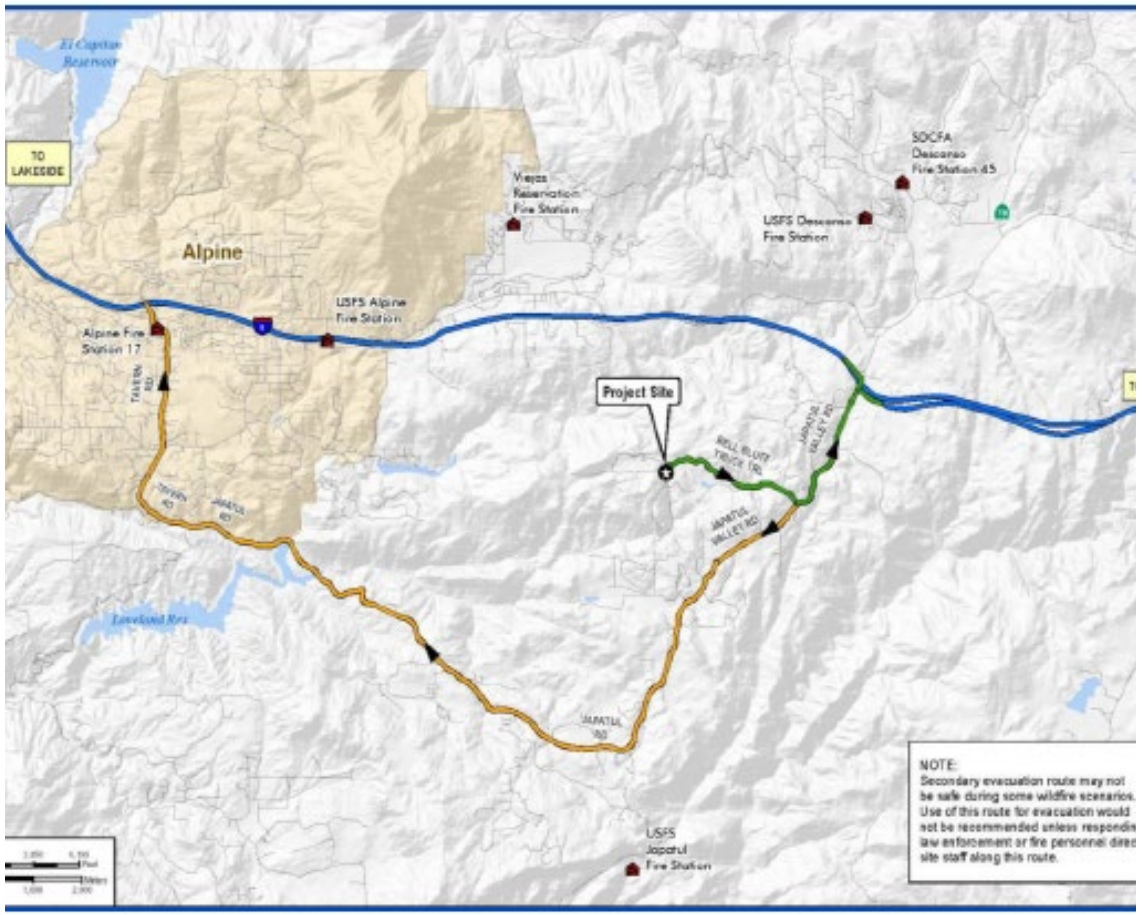
Suncrest Overview

- **Began commercial operations February 29, 2020**
- **The 230 kV Suncrest Static Var Compensator (SVC) consists of:**
  - +300/-100 MVar SVC substation
  - Approximately one (1) mile 230kV underground transmission line
- **Above ground infrastructure: one substation, one riser pole**
- **Interconnects to SDG&E-owned Suncrest Substation**
- **Provides voltage support to:**
  - Increase delivery of renewable generation from the Imperial Valley
  - Additional system resiliency
- **No distribution / no loads / no generation / no retail customers - solely transmission**
- **HWT has not had any utility-instigated ignitions in its 5-year operational history**
- **No. of Employees: 2 part-time Operations Engineers**

HORIZONWEST TRANSMISSION

Operating territory limited to the Suncrest SVC Project which consists of a 230 kV SVC substation and one (1) mile of underground interconnection line

Suncrest SVC Project Location



HORIZONWEST TRANSMISSION

Suncrest SVC is completely hardscaped facility with a concrete perimeter wall

Suncrest SVC Facility

HORIZONWEST TRANSMISSION

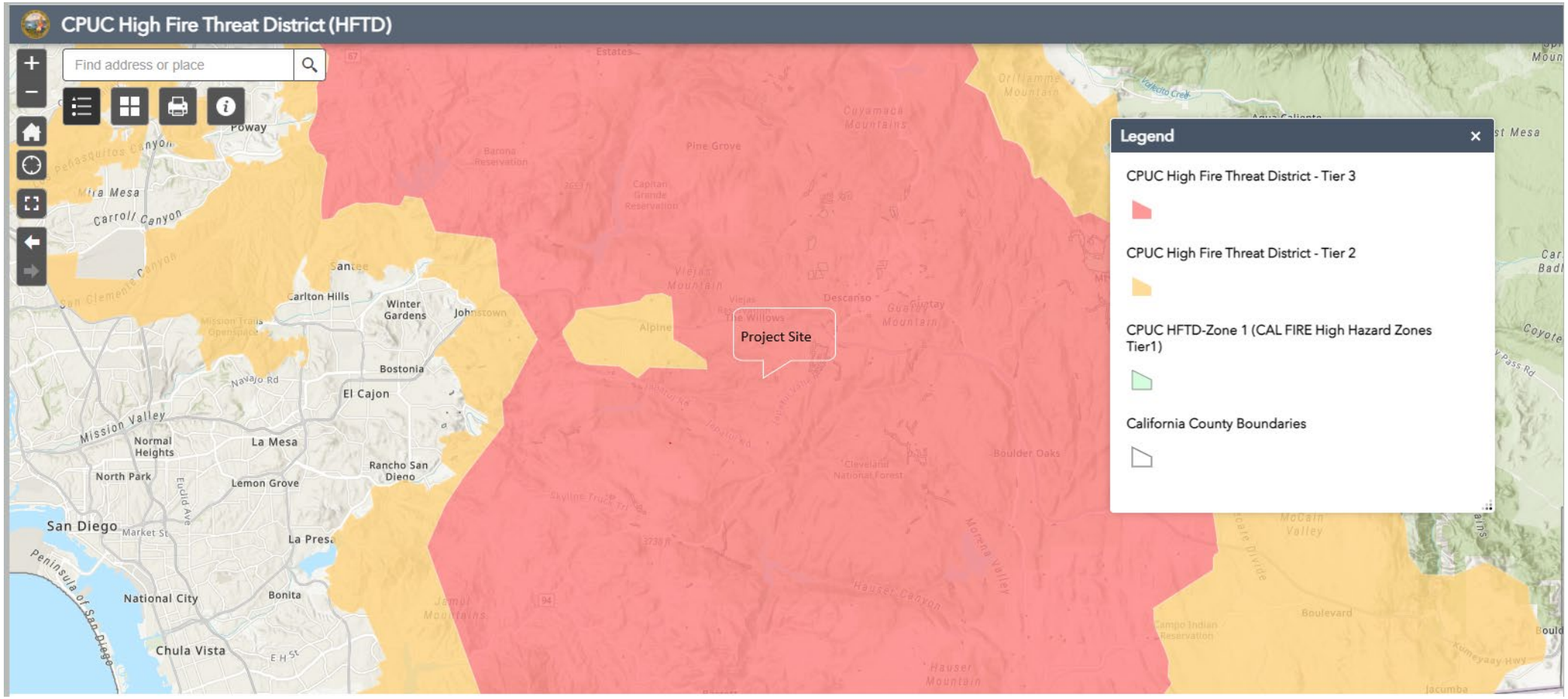
Suncrest SVC's hardscaped facility limits vegetation growth

Suncrest SVC Facility

HORIZONWEST TRANSMISSION

Suncrest SVC Project is wholly sited in Tier 3 HFTD

Suncrest SVC Tier 3 HFTD



HORIZONWEST TRANSMISSION

HWT's 2020 WMP Initiatives reduced fire risk and improve situational awareness

2020 Initiatives

- Install transformer oil gas monitoring
- Install camera to monitor overhead line
- Install 10ft concrete perimeter wall
- Install weather station
- Conduct independent wildfire mitigation assessment

HORIZONWEST TRANSMISSION

HWT's 2021 WMP Initiatives focused on increase infrastructure hardening and improved situational awareness

2021 Initiatives

- **Transmission**
  - Underground overheard section of the line
  - Install cable monitoring
- **Substation**
  - Place on transformer on seismic pads
  - Install fire barriers around one transformer
  - Increase the size of the transformer oil containment and add flame suppressing stone
- **Situational Awareness**
  - Install cable monitoring
  - Fire Potential Index development

HORIZONWEST TRANSMISSION

HWT made additional improvements in 2022 to enhance transformer fire and seismic resiliency

2022 Initiatives

- **Complete the substation initiatives on the other transformer**
  - Seismic pads
  - Fire Barrier Walls
  - Flame Suppressing Stone

HORIZONWEST TRANSMISSION

HWT assesses wildfire risk as based on its location in an HFTD and scope of operations

HWT Wildfire Prevention Strategy Summary

- **HWT's strategy includes the application of a fire risk assessment and reduction methodology**
  - Asset-level risk assessment process focused on fire probability, severity and detection, and implementation of effective risk reduction measures
- **HWT has developed site-specific Fire Prevention Plans in close coordination with local fire authorities**
  - San Diego County Fire Authority (SDCFA) and CAL FIRE reviewed and approved Suncrest SVC's Fire Prevention Plans prior to construction
- **HWT's WMP incorporates fire prevention strategies and measures in the following primary categories:**
  - Facility Design and Construction
  - Inspection and Maintenance
  - Operational Practices
  - Situational/Condition Awareness
  - Response and Recovery

HORIZONWEST TRANSMISSION

Design of Suncrest SVC project provides inherent system hardening against wildfire risk

Implemented Strategies (Facility Design and Construction)

- **Facility hardening during design, including use of:**
  - Steel poles
  - Undergrounding transmission lines in High Fire Threat District areas
  - Fuel-free vegetation setbacks
- **Early installation of on-site water tank with Fire Department connection**
- **Contracted fire-brigade services and fire engine**
- **Red Flag Warning (RFW) protocol limit activities during RFW days**
- **Fire safety training for all personnel on site, including contractors**
- **Incremental wildfire hardening measures implemented:**
  - Concrete perimeter wall
  - Transformer gas monitoring and containment hardening
  - Transformer seismic pads
  - Weather station
  - Cameras

Fuel Modification Zone

Water Tank

HORIZONWEST TRANSMISSION

HWT maintains inspection, maintenance and operating practices to limit wildfire risk

Implemented Strategies (Inspection, Maintenance and Operations)

- **Inspection and Maintenance**
  - Maintenance plan includes 24/7 real-time monitoring
  - Monthly inspections of facility, equipment, and fuel modification areas
    - -- Includes inspection for vegetation
    - -- Minimum annual weed abatement of substation and fuel modification areas
  - Annual fuel modification inspection by third party
  - Maintenance practices approved and will be audited by CAISO
- **Operational Practices**
  - RFW protocol limits activities during RFW days
  - Hot Work fire safety program
  - Fire safety training for all personnel, including contractors

HORIZONWEST TRANSMISSION

HWT maintains situational/condition awareness and emergency response measures to minimize wildfire risk

Implemented Strategies (Situational/Condition Awareness, Response and Recovery)

- **Situational/Condition Awareness**
  - Site security cameras and 24/7 remote monitoring with automatic alerts
  - Weather station
  - Fire Potential Index and Wildfire Spread Modeling (improvements pending 2025)
  - Periodic inspections of equipment condition
  - On-site personnel during site inspections and maintenance periods
  - Leveraging Technosylva's Wildfire Analyst platform for situational awareness (pending 2025)

- **Response and Recovery**
  - Implement Emergency Response Plan during emergency
  - Private Industrial Fire Brigade dedicated to Project with access to dedicated fire engine and class B foam trailer
  - Stakeholder communications during emergencies
    - -- HWT does not serve direct, end-use customers
    - -- Defined communications protocols with stakeholders (CAISO, CPUC, SDG&E, SDCFA, and CAL FIRE)
  - Established public safety power shut-off protocol to coordinate with SDG&E and CAISO

HORIZONWEST TRANSMISSION

HORIZONWEST

TRANSMISSION™


TBC
PRESENTATION

Trans Bay Cable LLC
2026-2028 Wildfire Mitigation Plan

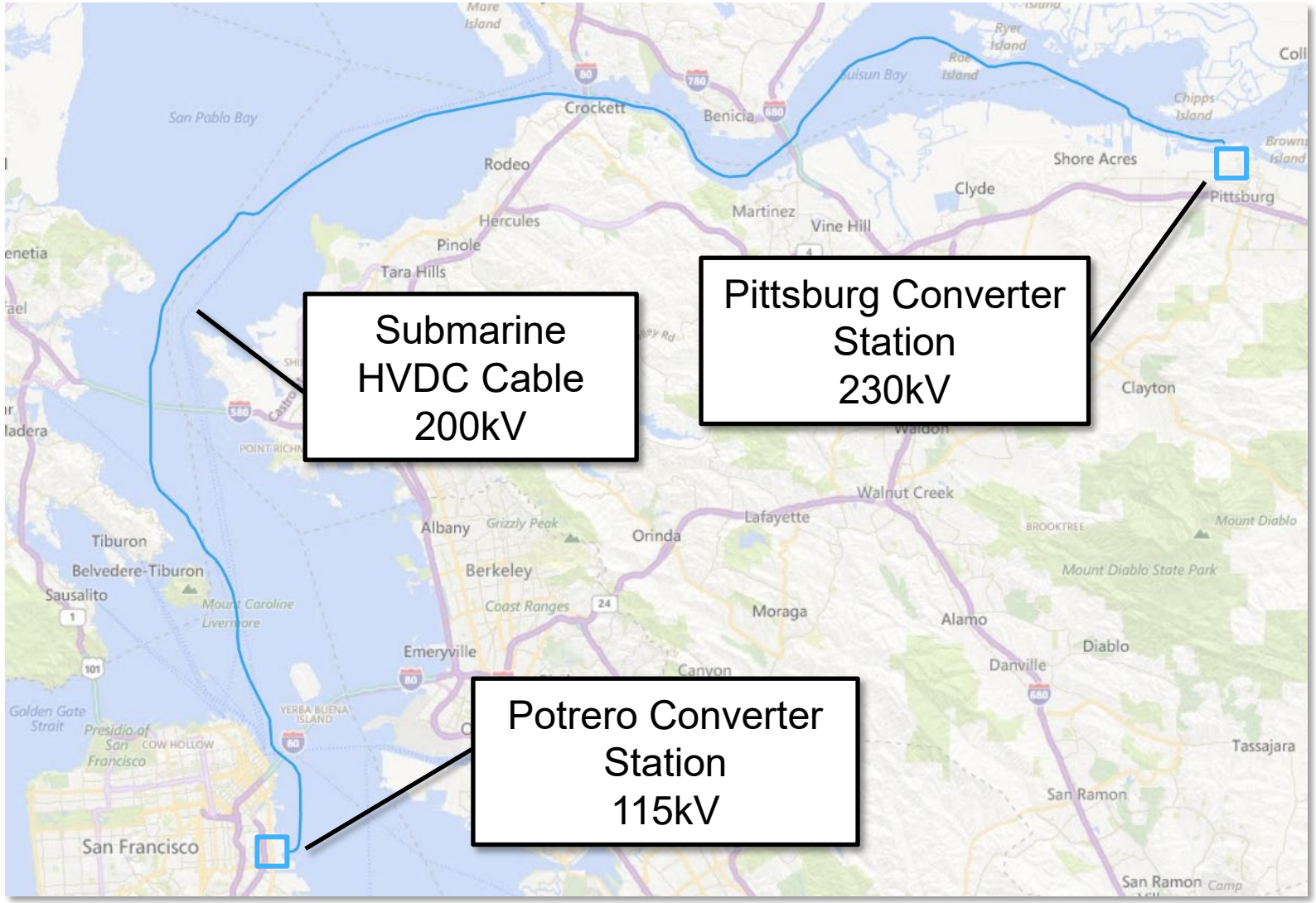
Submission Meeting

July 29, 2025

Lenneal Gardner – Sr. Manager Regulatory Affairs

Operating territory is limited to three elements of infrastructure supporting the Greater Bay Area grid

Operating Territory



TBC
Trans Bay Cable

Trans Bay Cable (TBC) (U934-E) is a resiliency resource for San Francisco and the Greater Bay Area grid

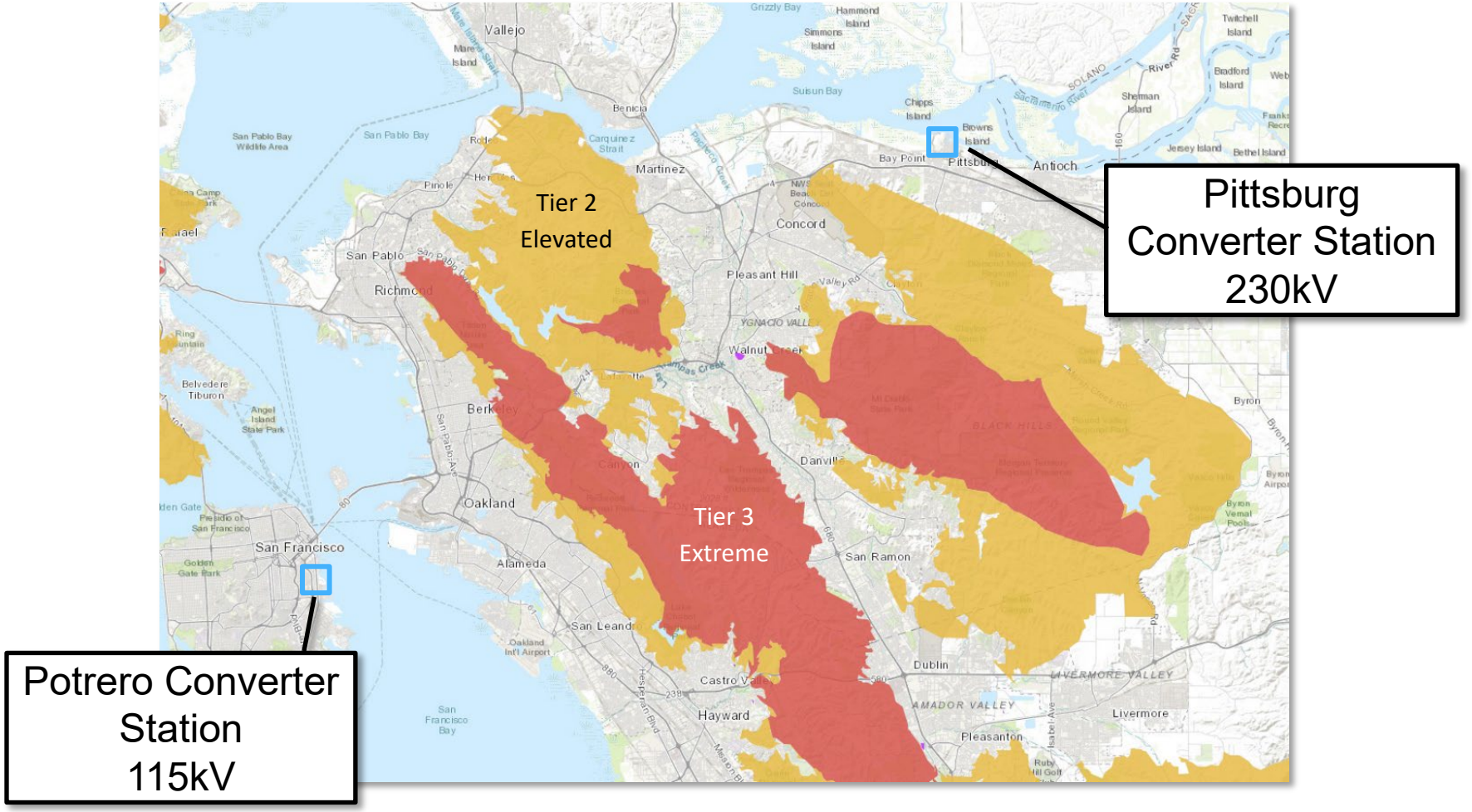
Trans Bay Cable System

- **High voltage DC transmission system**
  - 53 mile submarine cable
  - Two AC/DC Converter Stations
    - -- Pittsburg Converter Station
    - -- Potrero Converter Station (located in San Francisco)
- **Capable of providing 400 MW – up to 40% of the City's power**
- **Provides voltage support to Greater Bay Area grid**
  - +/- 145 MVar in Pittsburg
  - +/- 170 MVar in San Francisco
- **Resiliency to San Francisco by providing additional power path**
- **No distribution / no loads / no generation / no retail customers - solely transmission**
- **TBC has not had any utility-instigated ignitions in its 15-year operational history**
- **No. of Employees: 17**

TBC
Trans Bay Cable

TBC facilities located proximate to Tier 2 (Elevated) High Threat Fire District but not in wildlands or WUI

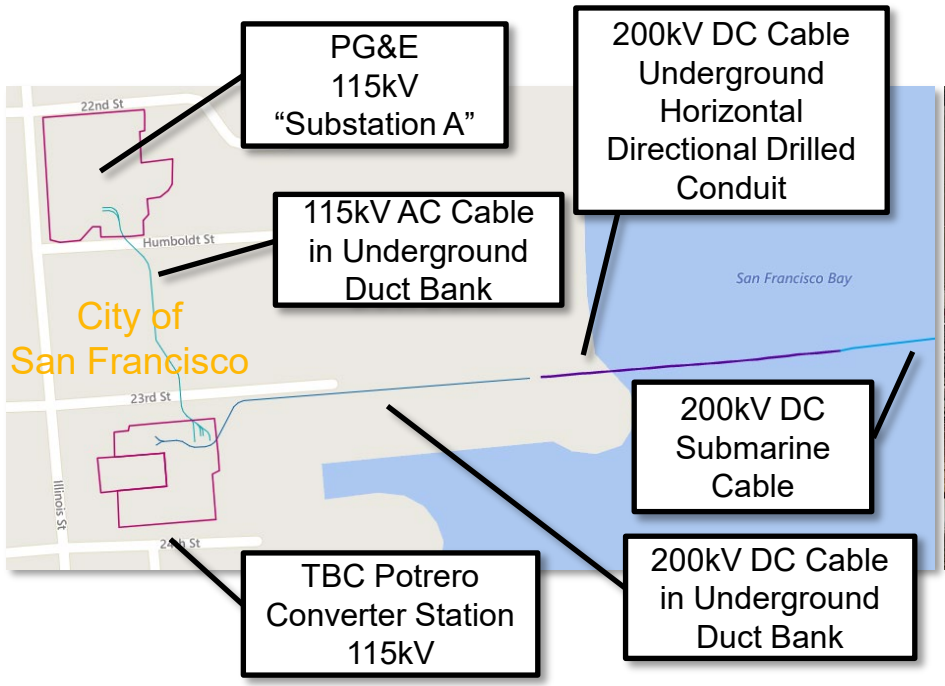
Proximate Fire Risk Areas



Trans Bay System replaced last carbon emitting generation station in San Francisco with transmission link

Potrero Converter Station

Infrastructure Elements



Overhead View

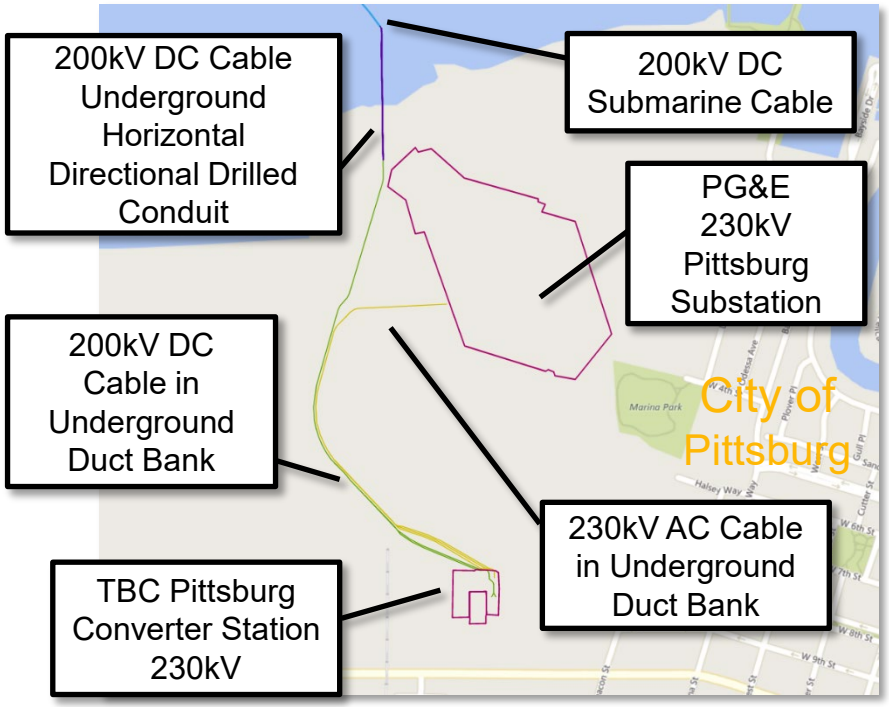
Located within San Francisco urban area – no material wildfire risk

TBC
Trans Bay Cable

Pittsburg Converter Station is closely coupled to generation in Sacramento delta

Pittsburg Converter Station

Infrastructure Elements



Overhead View

Located proximate in an urban area but proximate to vegetative fuels

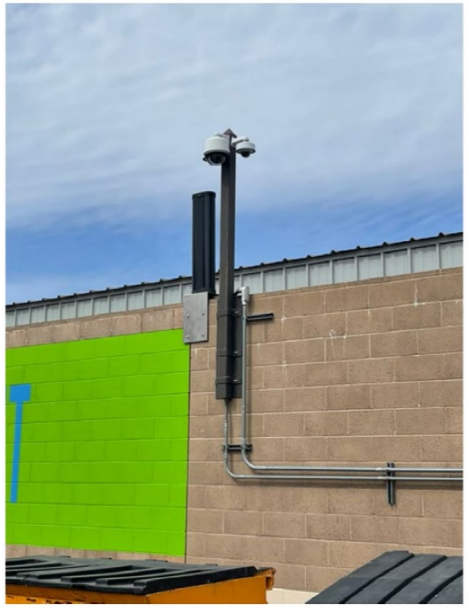
TBC Trans Bay Cable

TBC's original system design limits the potential of its transmission elements to make contact with vegetation

Photos of Hardscaped Pittsburg Station

Pittsburg Station- Hardscaped AC Yard

Pittsburg Station- Fire lane and 12ft perimeter wall



Pittsburg Substation- Perimeter Cameras

Pittsburg Station- Hardscaped HV Yard

TBC Trans Bay Cable

TBC has made additional investment in upgrades to reduce its fire risk and improve suppression capabilities

Photos of Incremental Upgrades

Pittsburg Station- Foam Trailer

Pittsburg Station- Foam Trailer

Compressed gas cylinder cage

Spare Parts Building Suppression System

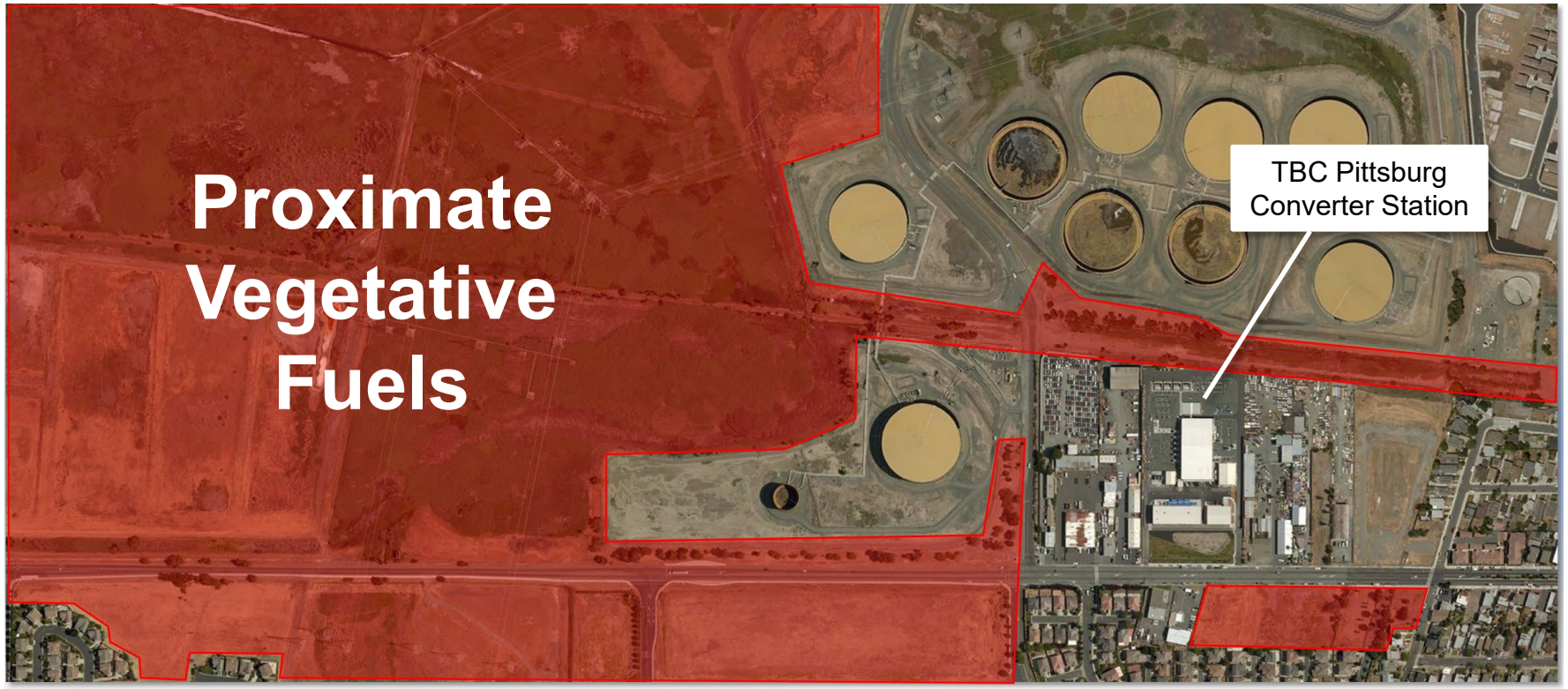
Pittsburg Substation- Transformer on Seismic Pad

Pittsburg Substation- Transf
Closeup of Base Isolator

TBC
Trans Bay Cable

Pittsburg Converter Station located amid area with proximate vegetative fuels

Proximate Vegetative Fuels



Assessed as low to moderate fire risk

TBC Trans Bay Cable

TBC assesses wildfire risk as part of its overall fire prevention program and operational risk reduction

Wildfire Risk Management Overview

- **TBC's strategy includes the application of a fire risk assessment and reduction methodology**
  - Asset-level risk assessment process focused on fire probability, severity and detection, and implementation of effective risk reduction measures
- **TBC has developed site-specific Fire Prevention Plans and facilities are periodically reviewed by local fire department**
- **TBC's WMP incorporates fire prevention strategies and measures in the following primary categories:**

  (1) Facility Design and Construction

  (2) Inspection and Maintenance

  (3) Operational Practices

  (4) Situational/Condition Awareness

  (5) Response and Recovery

TBC Trans Bay Cable

Design of TBC system provides inherent system hardening against wildfire risk

Implemented Strategies and Measures (Cont.)

1) Facility Design/Construction elements include:

- Undergrounding of all transmission cables
  - -- Placed in concrete vaults with thermolyzed backfill (land segments)
- Above ground infrastructure fully contained within converter station walls
- Site is hardscaped within 12-foot concrete wall perimeter with cameras
- Fire department approved fire lanes and Knox boxes
- Converter building equipped with monitoring, detection, alarms and fire suppression system
- Converter building designed to CA Building Code seismic specifications
- System employs controls which implement protective blocking within microseconds of a fault and will initiate trip offline within milliseconds
- Manual shutdown buttons in each of the system's three (3) control rooms
- Transformer blast walls and containment pits with 110% capacity

TBC Trans Bay Cable

TBC has emplaced inspection, maintenance and operating practices to limit wildfire risk

Implemented Strategies and Measures (Cont.)

(2) Inspection and Maintenance

- Maintenance plan includes 24/7 real-time monitoring
- Monthly inspections of facility and equipment, including fire suppression system and high-voltage equipment
- Routine compliance with NERC Protective and Control standards appropriate to TBC equipment
- Periodic site vegetation (weed) abatement
- Maintenance practices approved and annually audited by CAISO
- Annual site review by local fire department

(3) Operational Practices

- Hot Work fire safety program
- Fire safety training for all personnel, including contractors
- Operator training for emergency action, including system shutdown
- Procedures for Fire Prevention, Emergency Action Plan, Emergency Operations, Fire System, and Asset Monitoring and Protection

TBC has emplaced situational/condition awareness and emergency response measures to minimize wildfire risk

Implemented Strategies and Measures (Cont.)

(4) Situational/Condition Awareness

- Site security cameras (inward and outward facing) and 24/7 remote monitoring with automatic alerts
- Periodic inspections of facility, and equipment condition
- 24/7 On-site operator with direct access to all system controls via Human Machine Interface and facility monitoring via security applications
- Realtime transformer monitoring system
- Realtime cable monitoring system, with dig notice alerts

(5) Response and Recovery

- Implementation of Emergency Action Plan and Emergency Operations plan during emergency
- On-site Class B Foam Trailer, Fire Lanes, Hydrants, and Knox boxes
- Stakeholder communications during emergencies
  - -- TBC does not serve direct, end-use customers
  - -- Defined communications protocols with stakeholders (CAISO, CPUC, PG&E and local fire departments)

TBC Trans Bay Cable

TBC has continued to enhance system hardening to reduce operational risk, include fire risk

Incremental Site and System Hardening

- **Risk Assessments**
  - Initial Pittsburg Wildfire Risk Assessment completed (Q4 2020)
  - Supplemental Pittsburg Wildfire Risk Assessment completed (Q1 2022)
- **Completed Improvements supporting fire risk reduction efforts:**
  - Installation of transformer monitoring system (Q4 2020)
  - Installation of real-time cable monitoring system (Q4 2020)
  - Procurement of Class B Foam Fire Fighting Trailer (Q1 2021)
  - Installation of base isolators for transformers (Q3 2021)
  - Installation of transformer oil control system (Q3 2021)
  - Installation of weather station (Q4 2022)
  - Installation of fire suppression system in Spare Parts Building (Q2 2023)
  - Installation of outdoor protection storage for compressed gas cylinder (Q3 2023)
- **Pending Improvements supporting fire risk reduction efforts:**
  - Leveraging Technosylva's Wildfire Analyst platform for situational awareness
  - Enhancements to enterprise wildfire risk index

TBC Trans Bay Cable


TBC
Trans Bay Cable


HWT &
TBC
Q&A

10-MINUTE BREAK

Back at 1:25 pm

OPEN QUESTION AND ANSWER SESSION

NEXT STEPS: PUBLIC PARTICIPATION (1/3)

Submit your comments to the 2026-2028-Base-WMPs docket by 5pm on the following dates:

- **Liberty:** **Aug. 8, 2025**
- **PacifiCorp:** **Aug. 22, 2025**
- **Horizon West:** **Sept. 5, 2025**
- **Trans Bay Cable:** **Sept. 5, 2025**
- **LS Power:** **Sept. 5, 2025**

NEXT STEPS: PUBLIC PARTICIPATION (2/3)

- Docket **2026-2028-Base-WMPs** is your primary source of information: https://efiling.energysafety.ca.gov/EFiling/DocketInformation.aspx?docketnumber=2026-2028-Base-WMPs

- Data Request responses can be found on each electrical corporation's website, with summaries available on the **2026-2028-Base-WMP-DRs** docket: https://efiling.energysafety.ca.gov/EFiling/DocketInformation.aspx?docketnumber=2026-2028%20Base%20WMP%20DRs

NEXT STEPS: PUBLIC PARTICIPATION (3/3)

- Share your feedback on the workshop – including structure, topics, or timing.
    - Email suggestions to Danielle.Dooley@energysafety.ca.gov

- Material from today's workshop will be posted to the 2026-2028-Base-WMPs docket by Friday, Aug 1: https://efiling.energysafety.ca.gov/EFiling/DocketInformation.aspx?docketnumber=2026-2028-Base-WMPs

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POST-PRESENTATION FOLLOW-UP Q&A

PACIFICORP

Question: Are you using any non-unionized personnel for drone pilots or to review drone footage after inspections?

Answer: Union personnel are responsible for conducting PacifiCorp's drone-on-demand inspections and for using drones as tools during other safety patrol inspections.
In 2024, a third-party contractor was engaged to carry out a larger-scale drone inspection pilot. This effort did not involve union personnel directly in the inspections but was coordinated with each operations district. Looking ahead to 2026, PacifiCorp anticipates using the same contractor to perform inspections across PacifiCorp’s six-state service territory. These inspections will be conducted by non-union personnel; union personnel will assist in condition verification after the inspection has been completed.